



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,888	08/20/2003	James Barry Colter	66638/40473	8186
21888	7590	12/09/2004	EXAMINER HO, HA DINH	
THOMPSON COBURN, LLP ONE US BANK PLAZA SUITE 3500 ST LOUIS, MO 63101			ART UNIT 3681	PAPER NUMBER

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/645,888	COLTER ET AL.
	Examiner	Art Unit
	Ha D. Ho	3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 October 2004 and 20 August 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) 11-18 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-10 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 5/7/04.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

1. This is the first Office Action on the merits of Application No. 10/645,888 filed on 8/20/03. Claims 1-18 are currently pending.

Election/Restrictions

2. Applicant's election of the invention of group 1, claims 1-10, in the reply filed on 10/12/04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. Claims 11-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/12/04.

Claim Objections

4. Claim 2 is objected to because of the following informalities: in line 3, "part" should be changed to --parts--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Stoeckicht (US 3,011,365).

Stoeckicht teaches a planetary gear system (see Fig. 1) comprising:
a sun gear 7 adapted for rotation about a sun gear axis, the sun gear having a first sun gear part and a second sun gear part (right and left portions), the first sun gear part having first sun helical teeth, the second sun gear part having second sun helical teeth, the first and second sun gear parts being coaxial and made in one piece such that the sun first and second helical teeth are axially adjacent,

a plurality of planet gears 6 adapted for rotation about a corresponding plurality of planet gear axes, each planet gear comprising a first planet gear part and a second planet gear part (right and left portions), the first planet gear part of each planet gear having planet first helical teeth and the second planet gear part of each planet gear having planet second helical teeth, the first and second planet gear parts of each planet gear being coaxial and made in one piece such that the planet first and second helical teeth are axially adjacent,

the planet first helical teeth of each of the plurality of planet gears meshing with the sun first helical teeth, and the planet second helical teeth of each of the plurality of planet gears meshing with the sun second helical teeth,

an apex gap between the first and second parts of the sun gear, and an apex gap between the first and second pad of each of the planet gears (there is a gap between the right and left portions),

wherein the sun and planet helical teeth are arranged such that with the sun and planet gears rotating about their respective axes, axial forces imparted by the sun first helical teeth against the planet first helical teeth are in an axial direction opposite the axial forces imparted by the sun second helical teeth against the planet second helical teeth (this is so because of the herringbone gears),

wherein the sun first and second helical teeth are indexed, and the planet first and second helical teeth of each planet gear are indexed.

Note that claims 1, 5 and 6 appears to be product-by-process claims because of the recited process “welded together” (in line 5 of claim 1, and in line 3 of claim 6), and “the welded sun and planet gears are shaped by Ausform finishing” (claim 5).

Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection bases alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. *In re Brown*, 173 USPQ 685, 688 (CCPA 1972). See MPEP 2113.

7. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by McKibbin (US 5,472,383).

McKibbin teaches a planetary gear system (see Fig. 2) comprising:

a sun gear 8 adapted for rotation about a sun gear axis, the sun gear having a first sun gear part 8a and a second sun gear part 8b, the first sun gear part having first sun helical teeth, the second sun gear part having second sun helical teeth, the first and second sun gear parts being coaxial and made in one piece such that the sun first and second helical teeth are axially adjacent,

a plurality of planet gears 10 adapted for rotation about a corresponding plurality of planet gear axes, each planet gear comprising a first planet gear part and a second planet gear part (right and left portions), the first planet gear part of each planet gear having planet first helical teeth and the second planet gear part of each planet gear having planet second helical teeth, the first and second planet gear parts of each planet gear being coaxial and made in one piece such that the planet first and second helical teeth are axially adjacent,

the planet first helical teeth of each of the plurality of planet gears meshing with the sun first helical teeth, and the planet second helical teeth of each of the plurality of planet gears meshing with the sun second helical teeth,

an apex gap 86 between the first and second parts of the sun gear, and an apex gap 88 between the first and second pad of each of the planet gears,

wherein the sun and planet helical teeth are arranged such that with the sun and planet gears rotating about their respective axes, axial forces imparted by the sun first helical teeth against the planet first helical teeth are in an axial direction opposite the axial forces imparted by

the sun second helical teeth against the planet second helical teeth (this is so because of the herringbone gears),

wherein the sun first and second helical teeth are indexed, and the planet first and second helical teeth of each planet gear are indexed.

Note that claims 1, 5 and 6 appears to be product-by-process claims because of the recited process "welded together" (in line 5 of claim 1, and in line 3 of claim 6), and "the welded sun and planet gears are shaped by Ausform finishing" (claim 5) (see note above).

Cited Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Fletcher, Jr., et al'543, Pope et al'416, Schoo et al.'673, Lanzon et al.'654, and Schreiner'657 which each shows a double-helical-teeth planetary gear.

Communication

9. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P.. 512). The following is an example of the format the certification might take:

Art Unit: 3681

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on _____

(Date)

Typed or printed name of person signing this certificate:

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Ho whose telephone number is (703) 305-0738. The examiner can normally be reached on Monday-Friday from 7:30 A.M. to 5:00 P.M. Eastern Standard Time. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Mr. Charles Marmor, can be reached at (703) 308-0830. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

HDH
(703) 305-0738
December 7, 2004

Ho Ho
HAHO
PRIMARY EXAMINER
Art Unit 3681 12/7/04